
Kessler, Ellen

From: Lilley, Bliss
Sent: Tuesday, July 14, 2009 10:02 AM
To: Collins, Carly
Subject: FW: CapX2020
Attachments: CapXFactsheet.RightofWay.pdf; EMF_Factsheet3.pdf; RUS direct mail invitation_05 29 2009.pdf

From: Schultz, Dawn R [mailto:dawn.schultz@xcelenergy.com]
Sent: Friday, July 10, 2009 12:39 PM
To: p.heimbecker@peerlesschain.com
Cc: stephanie.strength@usda.gov; Lilley, Bliss
Subject: CapX2020

Dear Mr. Heimbecker,

Thank you for your contact regarding the CapX2020 Hampton - Rochester - La Crosse line. Just for clarification regarding routing, the route we are currently studying in the Winona area could be included on our Route Permit application to the MN Public Utilities Commission (PUC), or we could propose another, or both. (Our routes are still under review.) The PUC could end up choosing one of our routes or their own.

As to how the line would impact Peerless Chain Company, it is too early for us to speculate on that, given the uncertainty of routing. However, I am attaching a handout on easements which may prove useful.

Regarding EMF, I am attaching a handout on that as well. Included in the handout are outside sources that address the numerous studies that have been conducted on this issue. Another source for review would be here: <http://psc.wi.gov/thelibrary/publications/electric/electric12.pdf>

Finally, I am forwarding your concerns to Stephanie Strength with the USDA's Rural Utilities Service. They are currently taking comments for their Environmental Impact Statement. More information on this is also attached. They will continue to take comments until July 25th.

Should you have any further questions now or in the future, please do not hesitate to contact us again.

Dawn Schultz
Technician, Siting & Land Rights - North
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Phillip Heimbecker (507) 457-9132 p.heimbecker@peerlesschain.com
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I-257-002 | The proposed route for the line would run behind Peerless Chain Company if Winona, MN is selected for the line crossing into Wisconsin. I would like to know how this would impact the property where Peerless Chain Company sits and what will be done regarding the electromagnetic fields (EMF's) in relation to this project.
I-257-001 | There are approximately 400 employees at Peerless Chain that could feel the effects of this line being installed. Not to mention the business itself.

I-257-001

Your comment has been noted. Potential impacts to human and livestock health and safety with regard to EMF will be addressed in the Draft Environmental Impact Statement. Per Ms. Schultz' email, additional sources of information on the subject of EMF are available for your review.

The Draft Environmental Impact Statement will be available on the RUS website at: <http://www.usda.gov/rus/water/ees/eis.htm>. Comments on the Draft Environmental Impact Statement will be solicited after its publication.

I-257-002

Your comment has been noted. Potential impacts to land use will be addressed in the Draft Environmental Impact Statement. As stated by Ms. Schultz in her email response, it is too early in the process to determine impacts at specific locations.

Thank you.
Phillip A. Heimbecker 7/10/2009 12:47:00 PM

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Central Minnesota Municipal Power Agency
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 Minnesota Power
 Minnesota Power Cooperative
 Missouri River Energy Services
 Otter Tail Power Company
 Rochester Public Utilities
 Southern Minnesota Municipal Power Agency
 Wisconsin Public Power Inc.
 Xcel Energy

Electric and Magnetic Fields (EMF): the Basics

EMF exists wherever electricity is produced or used. Electric and magnetic fields are invisible lines of force that surround any electrical appliance or wire that is conducting electricity. You're exposed to these fields in your home when you turn on a lamp, e-mail a friend or cook your dinner. In all likelihood, you're surrounded by EMF from machines in your workplace, too.

The electric power we use daily is a 60-Hertz (Hz) alternating current, meaning that electric charges move back and forth 60 times a second. We use 'EMF' in this fact sheet in reference to these 60 Hz fields, called 'extremely low frequency' or 'power frequency' fields, which are distinct from the much higher frequency fields associated with radio and TV waves, X-rays, and cell phone signals. As a matter of fact, currents from 60 Hz EMF are weaker than the natural currents found in the body, such as those from the electrical activity generated by your brain or your heart.

What are electric and magnetic fields?

Electric fields are created by voltage – the higher the voltage, the stronger the field. Anytime an electrical appliance is plugged in, even if it isn't on, an electric field is created. But these fields are easily blocked by walls, trees, and even your clothes and skin, and the farther away you move from the source of the electric field, the weaker it becomes. Moving even a few feet away from an appliance makes a big difference in the strength of the field that you're exposed to. Electric fields are measured in kilovolts (kV).

Magnetic fields, measured in milliGauss (mG), only exist when an electric appliance is turned on – the higher the current, the greater the magnetic field. As with electric fields, the strength of a magnetic field dissipates dramatically as you move away from its source. However, unlike electric fields that are easily blocked, magnetic fields can pass through walls and clothes and other barriers.

Studies on EMF and possible health effects focus on magnetic

fields because they're more difficult to block and because most scientists have concluded that electric fields don't pose health threats.

Why are you calling them electric and magnetic fields instead of electromagnetic fields? Is there a difference?

These terms are often used interchangeably and both electric and magnetic fields and electromagnetic fields are usually abbreviated as EMF. However, technically there is a difference. The frequency fields produced by the generation, transmission and use of electricity – typical of most household and office appliances and power lines – are low and electric and magnetic fields exist separately. At higher frequencies, such as with radio or TV signals or X-rays, the fields are interrelated, and the term 'electromagnetic' more accurately describes these fields.

What are some of the things in my home and at work that produce EMF?

Anything that generates, distributes or uses electricity creates electric and magnetic fields. Below is a list of some appliances and machines commonly found in homes or offices and the magnetic fields they emit.

Typical 60 Hz magnetic field levels from some common home appliances

	Magnetic field 6 inches from appliance (mG)	Magnetic field 2 feet away (mG)
Electric shaver	100	–
Vacuum cleaner	300	10
Electric oven	9	–
Dishwasher	20	4
Microwave oven	200	10
Hair dryer	300	–
Computers	14	2
Fluorescent lights	40	2
Faxogram machines	6	–
Copy machines	90	7
Garbage disposals	80	2

Source: National Institute of Environmental Health Services / National Institutes of Health: EMF Associated with the Use of Electric Power

How can I find out what EMF levels I'm exposed to at home and at work?

You can find out your daily exposure to magnetic fields by wearing a personal exposure meter or by keeping one close to you. This is the most accurate way to measure your true exposure to magnetic fields during the course of your normal activities. Other meters, called gaussmeters, can be put in a location – like your kitchen or home office – to measure typical EMF levels in that spot. This type of measurement isn't an accurate measure of personal exposure, however, because it doesn't take into account your distance from the source of the fields or the amount of time you might spend in that place.

Contact your local electric service provider. Most utilities offer a free measurement service to customers for their homes or businesses.

What are 'typical' residential exposures to magnetic fields?

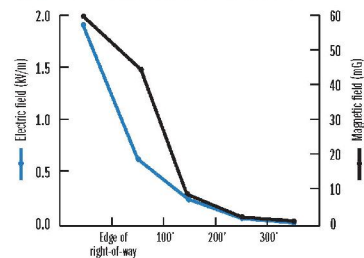
Exposure levels vary from individual to individual and from home to home, but a study by the Electric Power Research Institute (EPRI) puts the background levels of magnetic fields in the typical U.S. home at between 0.5 mG and 4 mG with an average of 0.9 mG. Levels rise the closer you get to the source of the field. Most people are exposed to greater magnetic fields at work than in their homes.

[See the table of magnetic field emissions given off by household and office appliances under **What are some of the things in my home and at work that produce EMF?**]

What EMF levels are found near transmission lines?

All transmission lines produce EMF. The fields are the strongest directly under the lines and drop dramatically the farther away you move. Contact your local utility to find out EMF information about a particular transmission line near you.

Typical EMF levels for a 230-kV transmission line



Source: Western Area Power Administration, *Electric and Magnetic Fields: The Facts*.

Do underground lines reduce EMF emissions?

Because magnetic fields are hard to block, burying power lines won't keep the fields from passing through the ground. Additionally, underground lines can produce higher levels of magnetic fields directly above them at ground level because these lines are located closer to you than overhead lines, although the strength of the magnetic field from underground lines falls away more quickly than from overhead lines. Underground lines are significantly more expensive to install and more difficult to repair, and since current information provides no conclusive connection between EMF exposure and health effects, burying lines isn't a reasonable alternative.

Are there state or federal standards for EMF exposure?

There are no federal standards limiting residential or occupational EMF exposure. The EMF emissions of appliances vary from

Typical 60 Hz electric and magnetic field levels from overhead power lines

Line voltage	Centerline	Approx. edge of right-of-way	100 feet	200 feet	300 feet
115 kV					
Electric field kV/m	1.0	0.5	0.07	0.01	0.003
Magnetic field mG	30	6.5	1.7	0.4	0.2
230 kV					
Electric field kV/m	2.0	1.5	0.3	0.05	0.01
Magnetic field mG	57.5	19.5	7.1	1.8	0.8
500kV					
Electric field kV/m	7.0	3.0	1.0	0.3	0.1
Magnetic field mG	86.7	29.4	12.6	3.2	1.4

Electric fields from power lines are relatively stable because voltage does not change. Magnetic fields fluctuate greatly as current changes in response to changing loads. The magnetic fields above are calculated for 321 power lines for 1990 mean loads.

Source: National Institute of Environmental Health Services / National Institutes of Health: *EMF Associated with the Use of Electric Power*

manufacturer to manufacturer and model to model. The designs of many newer model appliances, in general, often produce lower fields than older models. There is no federal certification program on EMF emissions so beware of advertisements on appliances making claims of federal government certification of low or no EMF emissions.

Do EMF emissions affect my health?

This issue has been studied for more than 30 years by government and scientific institutions all over the world. The balance of scientific evidence indicates that exposure to EMF does not cause disease. (See Sources and useful links section for more information on studies about EMF and health.)

In 2002 the Minnesota Department of Health released "A White Paper on Electric and Magnetic Field Policy and Mitigation Options." In regard to EMF emissions and health effects, the report states:

"The Minnesota Department of Health concludes that the current body of evidence is insufficient to establish a cause and effect relationship between EMF and adverse health affects." (page 36)

*The entire 2002 report is available at <http://www.capx2020.com/documents.html>.

Does EMF interfere with pacemakers or other medical devices?

EMF can interfere with a pacemaker's ability to sense normal electrical activity in the heart. Most often, the electric circuitry in a pacemaker might detect the interference of an external field and direct the pacemaker to fire in a regular, life-preserving mode. This isn't considered hazardous and is actually a life-preserving default feature. There have been cases with dual-chamber pacemakers triggering inappropriate pacing before the life-preserving mode takes over.

The American Conference of Governmental Industrial Hygienists (ACGIH) issued guidelines for EMF exposure for workers with pacemakers or implantable defibrillators. Maximum safe exposure for workers with these medical devices at 60 Hz (the frequency of most transmission lines) is 1 G (1,000 mG) for magnetic fields and 1 kV/m for electric fields.

Nonelectronic metallic implants (artificial limbs, screws, pins, etc.) can be affected by high magnetic fields like those produced by magnetic resonance imaging (MRI) devices, but are generally unaffected by the lower magnetic fields produced by most sources.

How can I reduce my exposure to EMF?

Your exposure to EMF is determined by the strength of the magnetic fields given off by things around you, your distance from the source of the field and how much time you spend in the field.

Creating distance between yourself and the sources of EMF is the easiest way to reduce exposure. Standing back – even an arm's length away – from appliances that are in use is a simple first step. Remember: EMF reduces dramatically with distance. This is more feasible with some appliances than with others, but the following are some simple recommendations that will help you reduce your EMF exposure at home:

- Move motor-driven electric clocks or other electrical devices away from your bed.
- Stand away from an operating microwave or other appliances that use a lot of electricity.
- Sit a few feet away from the TV and at least arm's length away from the computer screen.
- Limit the time you're exposed to a magnetic field by turning appliances, like computer monitors, off when you're not using them.

Sources and useful links

The following are links to more information and studies on EMF:

- *EMF: Electric and Magnetic Fields Associated with the Use of Electric Power, Questions and Answers*, June 2002, prepared by the National Institute of Environmental Health Services (NIEHS), National Institute of Health, www.niehs.nih.gov/emfrapid/booklet/emf2002.pdf. This booklet also includes an extensive list of references on a variety of EMF topics.
- "A White Paper on Electric and Magnetic Field Policy and Mitigation Options," prepared by the Minnesota Interagency Working Group on EMF Issues. www.capx2020.com/documents.html
- *Electric and Magnetic Fields: Facts*, Western Area Power Administration, www.wapa.gov/newsroom/pdf/EMFbook.pdf.
- "Electromagnetic fields: Typical exposure levels at home and in the environment," World Health Organization Fact Sheet, www.who.int/peh-emf/about/WhatsEMF/en/index.html. More general information on EMF can be found at www.who.int/emf.
- NIEHS/Department of Energy EMFRAPID program toll-free public information number to answer EMF-related questions: 800-363-2383.

Contacts

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Missouri River Energy Services
Otter Tail Power Company
Rochester Public Utilities
Southern Minnesota Municipal Power Agency
Wisconsin Public Power Inc.
Xcel Energy

Understanding Easements and Rights-of-Way

When people talk about building new transmission lines, they often refer to an 'easement' or a 'right-of-way' (ROW). Although the terms often are used interchangeably, they are distinct concepts.

What is an easement?

An easement is a permanent right authorizing a person or party to use the land or property of another for a particular purpose. In this case, a utility acquires certain rights to build and maintain a transmission line. Landowners are paid a fair price for the easement and can continue to use the land for most purposes, although some restrictions are included in the agreement. The easement instrument is the legal document that must be signed by the landowner before the utility can proceed.

What is a right-of-way?

A right-of-way is the actual land area acquired for a specific purpose, such as a transmission line or roadway.

What is the difference between an easement and a right-of-way?

Simply put, an easement is a land right and a right-of-way is the physical land area upon which the facilities (transmission line, roadway, buildings, etc.) are located.

How long does an easement last?

Easements are perpetual and are not subject to termination or expiration. Once an easement is signed, it becomes part of the property record. The utility, the landowner who signed the easement and all future owners of the property are bound by the terms of the easement agreement. The utility can, at some point, choose to release the easement rights if it removes the transmission line and abandons the right-of-way.

How are landowners paid for an easement?

Landowners typically are given a one-time payment based on fair market value for easement rights to their land. Landowners can elect to spread the payment out over time. For instance, landowners can choose to receive installments with interest paid annually on the remaining balance. Traditionally, the easement payment is based on a percentage of the appraised land value. Also, of course, the majority of land still is usable, particularly in agricultural settings where farmers can continue to use the land for raising crops or as pasture.

Landowners also are eligible for reasonable compensation for property damage that may occur when the transmission line is constructed and in the future during repair and maintenance, as described in the easement document.

Who pays property taxes for the right-of-way on which the transmission line is constructed?

The landowner continues to pay property taxes on the right-of-way, although some states, including Minnesota, may provide landowners a property tax credit in proportion to the length of the transmission line that crosses their property.

What easement rights will be needed for the construction of a power line?

The CapX 2020 projects will require easements that allow for surveying, construction, operation and maintenance of a transmission line across a defined right-of-way located on the landowner's property. These easements will include the right to clear, trim and remove vegetation and trees from within the right-of-way, as well as tall and dangerously leaning trees adjacent to the right-of-way that may threaten the line if they fall.

What activities are allowed within the easement area?

Land within the right-of-way may be used for any purpose that does not interfere with the construction, operation or maintenance of the transmission line. In agricultural areas, the land may be used for crop production and pasture. In areas where the land will be developed, streets, lawn extensions, underground utilities, curbs and gutters, etc., may cross the right-of-way with prior written permission from the utility.

Why are there restrictions on the land?

Providing electrical energy is an essential public service, and some restrictions are necessary within the right-of-way to maintain reliability. Utilities have determined that the best way to prevent outages is to restrict the placement of structures within the right-of-way. If a building or structure in the right-of-way caught fire, it could burn into the power line and take the line out of service for an extended time. Additionally, buildings or other structures in the right-of-way can hamper maintenance crews from accessing the line if an outage occurs.

What are the main building and plant restrictions in the easement?

Conditions will vary, but the primary building and planting restrictions within the right-of-way are in place to ensure that a utility has the necessary clearance for operation and maintenance, and to comply with the National Electrical Safety Code. Restrictions within the right-of-way strip prohibit constructing buildings and structures, storing flammable materials and planting tall-growing trees.

Why doesn't the utility just buy the land instead of negotiating an easement?

Utilities' main interest is in simply acquiring the rights to a piece of land in order to build and maintain a transmission line. Owning the land is not required to do this.

Landowners, for the most part, prefer to retain ownership of the property so they can maintain better control over its use within the easement restrictions. Often, retaining ownership allows the landowner continued use of the property for things such as agricultural operations, yard extensions or open space, allowing the property to continue to contribute positively and productively to the owner and the public. Most adjacent uses pose no threat to the line and do not create a public hazard.

Generally, how large is the area covered by an easement or a right-of-way?

The voltage and the type of transmission structure being built determine the size of the right-of-way. For 345-kV lines, the typical right-of-way is up to 150 feet wide.

What happens when the landowner and utility cannot agree on the easement or payment?

If an agreement cannot be reached, a utility may pursue a state-governed process called condemnation, under which a judge and a panel of impartial individuals decide whether the easement is needed and its value. The condemnation process varies from state to state. In general, states establish strict procedures for determining the amount a landowner should be paid by a utility for acquiring a right for construction and maintenance of a transmission line. A government's right to acquire – or authorize the acquisition of – private property for public use, with just compensation being given to the owner, is called eminent domain.

In some states when a transmission line crosses a rural property, a landowner, under certain conditions, may request that the utility purchase the entire property.

* This fact sheet is not a legal document. It is meant to provide general information about easements and rights-of-way. Individual state statutes differ and each utility has its own process.

11-06-2007

INVITATION TO PUBLIC SCOPING MEETINGS

FOR AN ENVIRONMENTAL IMPACT STATEMENT



CAPX2020 HAMPTON-ROCHESTER-LA CROSSE 345-KV TRANSMISSION LINE PROJECT

PUBLIC SCOPING MEETINGS WILL BE HELD AT THE FOLLOWING LOCATIONS:

June 16 6 – 8 p.m. Plainview-Elgin-Millville High School Cafeteria 500 West Broadway Plainview, MN 55964	June 18 6 – 8 p.m. City of St. Charles Community Meeting Room 830 Whitewater Avenue St. Charles, MN 55972	June 24 6 – 8 p.m. Centerville/Town of Trempealeau Community Center W24854 State Road 54/93 Galesville, WI 54630
June 17 6 – 8 p.m. Wanamingo Community Center 401 Main Street Wanamingo, MN 55983	June 23 6 – 8 p.m. La Crescent American Legion 509 North Chestnut La Crescent, MN 55947	June 25 6 – 8 p.m. Cochrane-Fountain City High School S2770 State Road 35 Fountain City, WI 54629

The U.S. Department of Agriculture (USDA) Rural Utilities Service (RUS), Dairyland Power Cooperative and other CapX2020 utilities invite you to attend a public scoping meeting to discuss the proposed Hampton-Rochester-La Crosse 345-kilovolt (kV) transmission system improvement proposal.

Serving as the lead federal agency, RUS is responsible for completing any requirements with the National Environmental Policy Act (NEPA), including preparing an Environmental Impact Statement (EIS). Dairyland Power Cooperative is requesting RUS provide financing for its portion of the proposed project. The public scoping meetings provide an opportunity for you to discuss project details with agency and company representatives and for your comments to be incorporated into the planning process and development of an EIS.

RUS will use input provided by government agencies, private organizations and the public in the preparation of the Draft EIS, which will be available for review and comments for 45 days. A Final EIS that considers all comments received will subsequently be prepared.

PROPOSAL

The CapX2020 utilities are proposing to construct a 345 kilovolt (kV) electric transmission line and associated facilities between Hampton and Rochester, Minnesota, and the La Crosse, Wisconsin area. The proposal includes the proposed 345 kV transmission line from a substation near Hampton to a proposed substation in north Rochester and to a new or existing substation near La Crosse. The proposal also includes construction of a new 161-kV transmission line and associated facilities in the Rochester area. (Detailed project map on back.)

The proposed facilities are needed to improve regional reliability, enhance local load serving needs and provide generation outlet support. CapX2020 is a joint initiative of 11 electric transmission-owning utilities in Minnesota, Wisconsin and the surrounding region to expand the electric transmission grid to meet the increasing demand for power.

Xcel Energy is the lead utility for the proposal. Dairyland Power Corporation has requested financial assistance from RUS for Dairyland's anticipated 11 percent ownership interest in the proposal. Other anticipated owners of the proposed facilities include WPPI Energy, Southern Minnesota Municipal Power Agency, and Rochester Public Utilities. Before the proposal can be built, the CapX2020 utilities must obtain approval from state and federal agencies. Proposal approval also involves NEPA processes and the NEPA implementation guidance of RUS.

DOCUMENT AVAILABILITY & REQUESTS

Two documents have been prepared for the proposal and are available for review prior to the agency and public scoping meetings in June 2009. The Alternative Evaluation Study (AES) explains the proposal's need, discusses the alternative methods that have been considered to meet that need, and which alternative is considered the best for fulfilling the need. The Macro Corridor Study (MCS) defines the proposal study area and shows the proposal's end points. Within the proposal study area, macro-corridors have been developed based on environmental, engineering, economic, land use and permitting constraints. Both documents are available at the libraries detailed in the attached list. If you are interested in receiving copies of either of these documents, please contact Stephanie.strength@usda.gov or (202) 720-0468.

For more information, please contact:

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Or, contact Tom Hillstrom or Chuck Thompson at
lacrosseinfo@capx2020.com or 1-800-238-7968 or visit
www.capx2020.com for additional project information and
detailed project maps.



Detailed project map on back.

